

Central Illinois Lincoln Logs

National Weather Service, Lincoln IL

Autumn 2009

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Enhanced NWS Products & Services Using Google

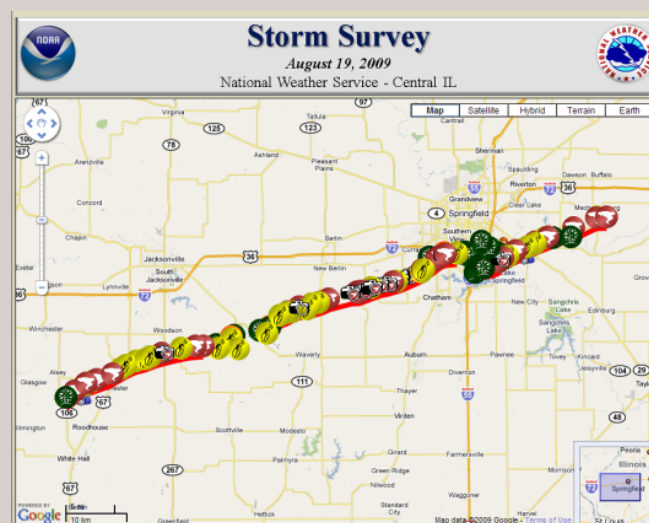
By: Darrin Hansing, Service Hydrologist

You may have noticed that the National Weather Service in Lincoln and many other offices across the United States are starting to offer more and more enhanced products and services through the use of both Google Earth and Google Maps. These tools allow us to visually convey a wide variety of meteorological and hydrological information in a whole new way. We can now produce user interactive, dynamic products that were not available in the past.

One such example of this is in storm damage surveys. In the past we used to produce basic, static maps of storm damage and tornado tracks as well as post a few pictures on our website. However, the Lincoln NWS office now has the capability of offering complete storm damage survey information to the public through one simple Google Maps interface. This one interface allows you to visualize tornado tracks, damage locations, damage impacts/information, storm photos and geospatial information in a map interface where you have control over where you go and what you see.

This Google storm survey on the August 19th tornadoes is our first use of this new tool. The links to these maps can be found on the write-up page for this storm event at <http://www.crh.noaa.gov/ilx/?n=19aug09>. Below you will find an overview of how to move within these maps as well as how to view the information.

Simple map controls



- Controls on the left side of the maps allow you to zoom in and out of the map as well as pan left, right, up, and down.
- Left clicking and dragging your mouse will allow you to move in any compass direction.

The scroll button on your mouse will allow you to zoom in and out as well.

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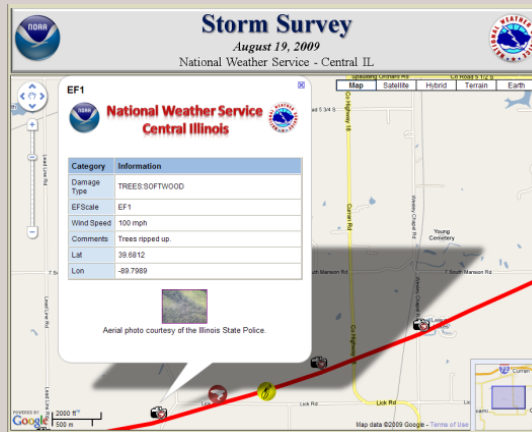


Enhanced NWS Products and Services Using Google (cont.)

Easy to visualize icons

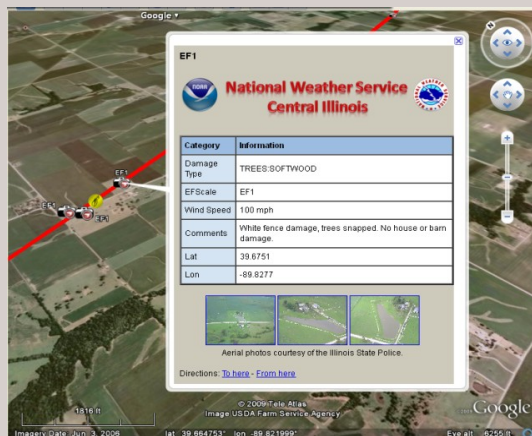
The NWS has a variety of data sets available utilizing Geographic Information Systems (GIS). For more information, visit

<http://www.weather.gov/gis>



- Each icon symbolizes a survey point with some sort of storm survey information. Click on the icon to display the information for that point. The key to these icons will always be found on the web page with the maps.
- Icons with cameras show where there are pictures available.
- Once you click on the icon you will see thumbnail images of the available pictures. Click on the images to open the full size picture in a web browser window.

Multiple map visualizations



- Options in the upper right hand portion of the maps allow you to visualize the map in many different ways.:
- **Map** (basic base map with roads)
- **Satellite** (basic satellite overlay)
- **Hybrid** (satellite overlay with labeled roads)
- **Terrain** (topographic overlay)
- **Earth** (displays the data in a Google Earth Browser plug-in)

These surveys are best viewed through the Google Earth visualization. In order to view it, you will be prompted by Google to install the plug-in for your browser.

We hope you enjoy these new storm survey products. In the future, look for many more enhanced products and services on our website, through the use of Google. If you have any ideas or suggestions for future NWS products using Google, then please write to use at w-ilx.webmaster@noaa.gov and/or Darrin.Hansing@noaa.gov. The suggestions that are collected will be submitted to our Central Region Headquarters, for future consideration and possible development.



Total Number of Illinois Tornadoes, since 1950:

November — 58

December — 44

January — 27

Highest Number of Monthly Tornadoes:

November — 8 in 1965

December — 21 in 1957

January — 8 in 1967

Severe Thunderstorms in Late Autumn and Winter? It Can Happen in Illinois!

By: Chris Miller, Warning Coordination Meteorologist

Typically when we think of late autumn and winter, thoughts of colder temperatures, snow and ice come to mind - and that is what usually happens. However, when the mercury jumps to unseasonably mild levels between November and January - and a strong low pressure area or cold front is approaching - be alert for the dangers of severe thunderstorms with damaging wind, large hail and even tornadoes.

Severe weather episodes have occurred 17 times in the past 10 years, from November through January, in central and southeast Illinois. In the state of Illinois, 129 tornadoes have occurred between November 1st and January 31st since 1950. Many people think that most of these are in far southern Illinois - but that is not the case. In fact, an EF3 tornado - with estimated winds over 140 mph - crossed from Boone County into McHenry County near the Wisconsin border on January 7, 2008.

Recent Severe Weather Outbreaks in late autumn/early winter:

- **November 5-6, 2005:** An area of severe thunderstorms produced multiple reports of 60 to 80 mph wind gusts and widespread damage in east central, south central, and south-east Illinois from late in the evening on the 5th through the early morning of the 6th. This same cluster of storms produced several tornadoes in southwest Indiana - shortly after 2:00 AM - which killed 24 people, injured more than 230 and did in excess of \$80 Million in damage.
- **November 15, 2005:** A line of severe storms produced 5 tornadoes and 17 reports of wind damage along and south of I-70. The storms injured 3 people.
- **December 23, 2007:** A line of thunderstorms produced nearly two dozen damaging wind reports, with wind gusts estimated to be 60 to 70 mph in the northern half of Illinois. These thunderstorms occurred between Midnight and 3:00 AM.
- **January 7, 2008:** Supercell thunderstorms produced 3 tornadoes, 6 reports of wind damage and 13 reports of large hail in central and northern Illinois. The tornadoes caused more than \$4 Million in damage and injured 5 people.
- **December 27, 2008:** A strong cold front moving across the state produced widespread wind damage in many parts of Illinois. Wind gusts of 60 to 80 mph were reported - which injured 5 people and caused more than \$1 Million in property damage. The storms also spawned 3 weak tornadoes in west central Illinois between Quincy and Macomb.

The main point to remember is remain alert for damaging wind, large hail and tornadoes - even in the late autumn and early winter. Pay attention to the forecast: if the temperatures are expected to be unseasonably mild and thunderstorms are a possibility, be aware that severe weather can occur. Be ready to seek safe shelter quickly if Severe Thunderstorm Warnings or Tornado Warnings are issued for your area.



This home near Poplar Grove was destroyed by an EF-3 tornado on January 7, 2008. Photo courtesy NWS Chicago.



Signal Coverage Information:

The coverage area of a NOAA Weather Radio station is designated as the region which receives a signal strength of at least 4 microvolts. This is used to determine which areas will use alarm tone signals during severe weather.

Approximate maps of the coverage areas of Illinois NWR stations can be viewed at:

[http://
www.weather.gov/
nwr/Maps/PHP/
illinois.php](http://www.weather.gov/nwr/Maps/PHP/illinois.php)

Actual reception will vary with type and placement of the receiver.



Champaign NOAA Weather Radio Upgrades

On September 26-27th, major repairs were completed to the Champaign NOAA Weather Radio station, WXJ-76. Ken Hunter, electronics technician at the Lincoln NWS, worked with representatives of Rhodes Technology, radio stations WDWS-WHMS, and Independent Technologies to replace a defective antenna array, and a damaged coaxial RF feedline.

A few years back, the original 44 foot long, 8 bay antenna was determined to be damaged by either lightning, ice or a combination of both during its tenure. A temporary, emergency repair was made by installing a single bay antenna on the 8 bay mast, and moving the existing RF feedline connection to the emergency antenna. At the time this emergency repair was made, it was noticed by the installer that there was an area of damage to the coaxial RF feedline several feet below the antennas and this information was passed on to the station engineer and others in the loop. For practical reasons, it was decided to continue operating the NWR transmitters in this configuration until an agreement between the NWS, the radio station management and other interested parties could be reached before making permanent repairs. Subsequently, several failures in the NWR transmitters occurred. Most of these failures could be directly related to the improper RF load presented to the transmitters because of the damage to the RF feedline. Eventually an agreement was made between the parties. Antennas, RF feedline, connectors and mounting hardware was ordered and received, and the equipment installed.

Following the repairs, reception levels greatly increased, and locations that have not had reception for years now report solid, noise-free coverage. During the next few months, the transmitter itself is scheduled to be replaced as well.

(Photo at left by Ken Hunter, NWS; photo at right by Fred Weber, Independent Technologies.)





Winter Weather Preparedness Week:

*The annual Winter
Weather
Preparedness Week
is scheduled for
November 15-21,
2009.*

Central Illinois Observer Program News

By: Billy Ousley, Data Acquisition Program Manager

It is that time of year again. Short pants and short sleeve shirts seem like distant memories. Soon, winter coats, gloves, scarfs and hats will be the norm as we prepare to battle the Midwest winter season once again.

Along with the cold temperatures comes the wintery mix of weather. Observers for the various observation programs within Central Illinois (Cooperative observation program, SWOP, CoCoRaHS) begin to consider the expected winter weather elements and prepare for the taking and recording of the daily observations. As a result, the following information is provided as a reminder of the proper observing techniques for an area which evokes many questions...ICE and wintery mixes of weather.

Freezing Rain! What is it and How do I measure ice?



Freezing rain is precipitation that reaches the ground in liquid form and then freezes on contact. The deposits of ice are called glaze. Glaze is not snow or sleet. If you receive freezing rain only, then you melt what lands in your gauge and report that as your daily precipitation amount. You report the new snow amount to be 0.0 However, the entry for "Total Depth of Snow" includes the depth of both snow (new and old) AND ice. So if the glaze has accumulated to a depth of about 1/2 inch, you report 0.0 for your snowfall but 0.5 as your total depth of snow (and ice) on the ground.

Freezing rain can make it nearly impossible to remove your gauge from its mounting bracket for melting and measuring. If freezing rain is anticipated, it may be a good idea to remove the gauge from its' bracket and set it securely on the ground. Warm water can be used to melt the ice on the bracket to free the gauge, if necessary.

There is no perfect fast way to melt the ice inside and along the rim of your gauge. You only want the ice that has accumulated inside the beveled rim of your gauge to end up in your measurement for the day. Bring the gauge inside and let the ice melt. Adding a measured amount of warm water to the inside of the gauge can hasten the melt, if necessary. Use of microwaves to melt the ice inside the gauge is not recommended as we do not know how well these gauges hold up to microwaves.

If you can afford it, winter is the time to splurge and get a second gauge. You can order extra outer cylinders from the company that makes them up in Minnesota. There is a parts list inside your rain gauge box. It is really great to be able to bring in one gauge and set out another so you don't have to rush melting and measuring the precipitation. I've heard from a few of you, that you've collected three or even four gauges to make winter measurements, including core sample measurements, quicker and easier.

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Summer Climate Statistics:

Peoria had its **7th coolest summer on record**, with an average temperature of 71.1°F (2 °F below normal). The total rainfall of 13.32" was 2.30" above normal.

Springfield tied for its **10th coolest summer on record**, with an average temperature of 72.4°F (2°F below normal). The total rainfall was 13.94", which was 3.23" above normal.

Lincoln had its **third coolest summer on record**, with an average temperature of 70.5°F (2.7°F below normal). Rainfall of 13.11" was just 0.79" above normal.

Statistics are based on the period from June 1 to August 31.

Statewide, it was the 11th coolest and 8th wettest summer on record, according to the Illinois State Climatologist's office. This included the state's coolest July on record, with an average temperature of 70.4°F (5.3°F below normal).

Central Illinois Cooperative Program News (cont.)

In the event of freezing rain, there is a very useful measurement that you can make. All you need are your eyes and a simple ruler. Engineers for utility companies, power transmission lines, communications towers, etc need to be able to compute the weight of ice buildup so they can better design and build structures to withstand heavy ice loads. Using a ruler, measure the RADIAL THICKNESS of ice that has accumulated on objects above ground. Straight twigs and fence wires provide good surfaces for radial ice thickness measurements. The radial thickness is the average thickness of the ice sticking out in all directions from the center of the collection surface. It is the RADIUS of that ice that we are interested in, NOT the diameter. Use a ruler to measure the radial thickness to the nearest 1/8 or 1/10th inch. Report that information along with any other useful remarks in your "Observation Notes"



Speaking of "Observation Notes", we greatly appreciate the notes you record about your weather conditions. There were some great and very useful comments recorded daily from our Central Illinois observers which help describe these winter storms that pass through the area annually.

What about Sleet?

The term "sleet" typically refers to ice pellets or a combination of rain, freezing rain, ice pellets and snow. More recently, meteorologists have been calling this a "Wintry Mix". Precipitation that is already frozen before it reaches the ground -- including ice pellets -- is measured and reported the same way you would measure and report new snow.

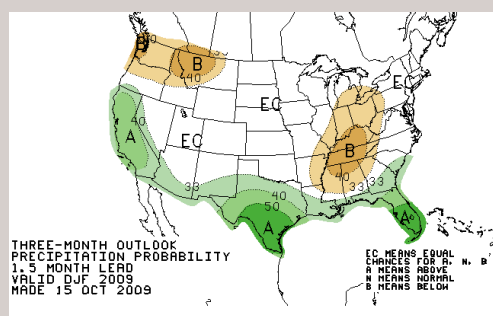
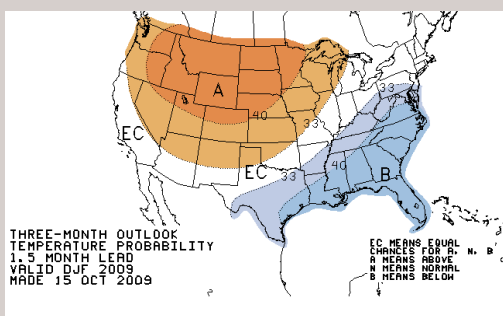
What about Sleet?

Some comments about ice?

As much as we appreciate and want the information from your daily observations, PLEASE do not hurt yourself. I would rather see missing data for your station for an important storm than to find out that you broke a bone and ruined your whole winter. There are probably dozens of you who can share stories about close encounters with freezing rain -- and that doesn't even include the encounters you've had with your and other cars. So please be careful.

Some comments about ice?

Winter Weather Outlook



The outlook for winter calls for much of the northwest half of the nation to be warmer than normal (left map, orange shades), with cooler than normal conditions along the Gulf and East Coasts. Drier than normal conditions are expected across the Ohio and Tennessee Valleys and the Pacific Northwest (right map, brown shades), with wetter than normal conditions along the Gulf Coast west to California.



Longtime COOP Observer Passes Away:

Dr. Dalias Price of Charleston passed away October 3 at the age of 96. He was the COOP observer for Charleston for about 48 years, before stepping down in 2008 due to poor health. In 2005, Dr. Price received the Thomas Jefferson Award, the most prestigious award that a COOP observer can receive.

Cooperative Observer Awards

The following cooperative observer length-of-service awards have been presented since the last edition of Central Illinois Lincoln Logs:



The Galesburg Water Works was presented with a 50 Year Institutional Length of Service Award on September 11.



Rick Dickinson (right) of Congerville was presented a 20 Year Length of Service Award on September 10 by HMT John Parr.



John Kenyon (right) of Lacon was presented a 20 Year Length of Service Award on September 10, by HMT John Parr.



Richard Trisler (right) of Sidell accepted a 25 Year Institutional Length of Service Award from John Parr on Sept. 9, on behalf of Central Illinois Production LLC.



Carl Pieper of Hammond was presented a 30 Year Length of Service Award on July 27, by intern Amy Jankowski.

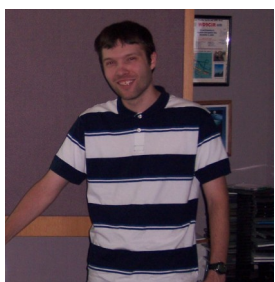
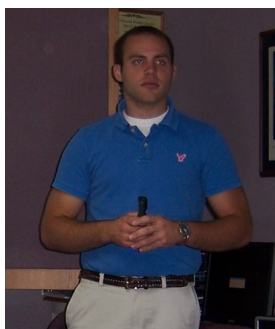


Betty English of Marietta received a 20 Year Length of Service Award on July 28, by intern Amy Jankowski.

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Summer Student Volunteers:

The NWS once again hosted student volunteers over the summer break. Dana Brown (top) is a student at Western Illinois University in Macomb, and Chris Lippold (bottom) attends Valparaiso University in Indiana.



Cooperative Observer Awards (cont.) (cont.)



Aqua Illinois in Danville was presented with a 50 Year Institutional Length of Service Award on September 9, by HMT John Parr. Dave Cronk (left) and Mike Schingel (right) accepted the award.



Chris Geelhart of Sherman was presented a 10 Year Length of Service Award on September 29 by DAPM Billy Ousley.



Doug Nuttall of Lawrenceville was presented a 30-Year Length of Service Award on September 16, by intern Amy Jankowski.



Van Hankins of Loami was presented a 10-Year Length of Service Award on September 17.



2009 Skywarn Recognition Day

By: Ernie Goetsch, Meteorologist-in-Charge

During the 2008 Skywarn Recognition Day, operators at the Lincoln NWS made 891 contacts (also called QSO's) in 49 different states. The only NWS offices with more contacts were Des Moines, IA (1,203) and Melbourne, FL (1,192).



John Anderson and Rick Kempf operate the amateur radios during the 2008 Skywarn Recognition Day..

The National Weather Service (NWS) in Lincoln will host the 11th annual SKYWARN Recognition Day (SRD) from December 4, 2009 at 6 P.M. to December 5, 2009 at 6 P.M. We are proud to again host this annual event, as SRD is our way of saying "thanks" to amateur radio operators who provide weather information during hazardous weather. SRD is co-sponsored by the NWS and the American Radio Relay League.

As in years past, operations will begin at the Lincoln office at 6 P.M. on Friday night and continue for 24 hours. Local ham radio operators will be operating special radios set up specifically for the event.

Operators will be trying to contact fellow NWS offices and other radio operators across the world. The official SRD web site (<http://hamradio.noaa.gov>) contains further information.

Focus on NWS Staff Members



Tim Gross, a SCEP appointee in the National Weather Service, began working August 10th at the office. The Student Career Experience Program (SCEP) offers valuable work experience and formal periods of work and study while attending school.

Tim is originally from Goodfield, IL and graduated from Eureka High School in 2005. He is currently a senior at Western Illinois University majoring in Meteorology, with minors in mathematics and GIS. At Western, he is involved with various organizations

and clubs. He is a member of the Severe Weather Club, which is continually growing and doing many activities regarding weather. Tim is also heavily involved in Campus Students for Christ, a campus ministry organization at WIU. He has been on the Dean's List every semester at WIU and is a member of three honor societies; Phi Kappa Phi (distinguished national honor society), Golden Key (international honor society) and Kappa Mu Epsilon (mathematics).

As a SCEP, Tim is learning how to work at the weather service while still being a student at Western. He is involved with the COOP program, upper air, CoCoRaHS, and other tasks pertaining to working the operations shift. He also continues to learn about the various jobs that are maintained at the weather office and how he can be involved at the office. He enjoys learning the different aspects of the weather and how it impacts our day-to-day lives.



Central Illinois Lincoln Logs

National Weather Service
1362 State Route 10
Lincoln, IL 62656

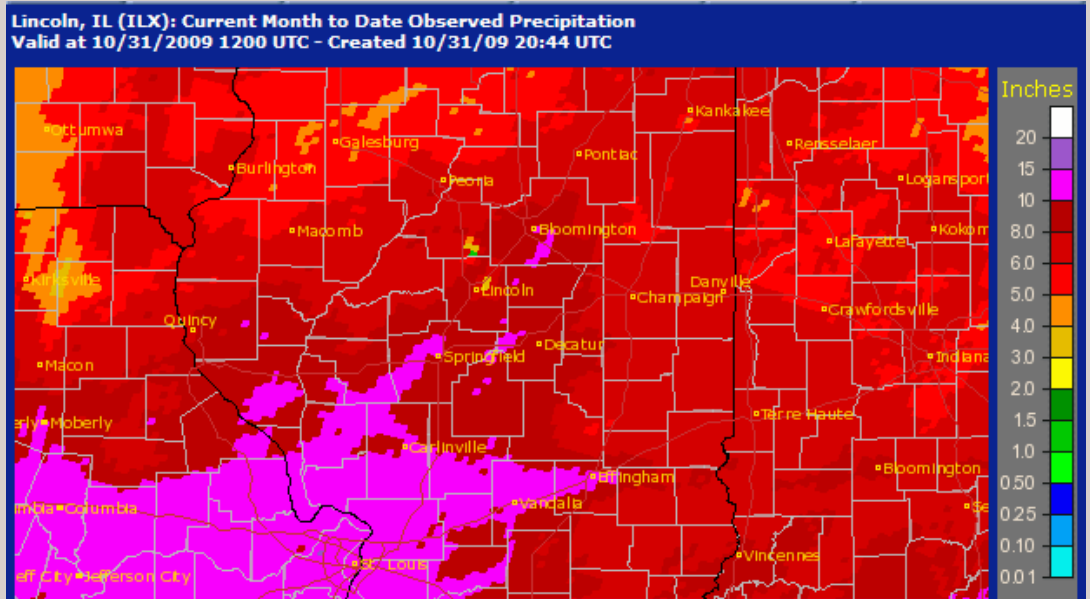
Phone: (217) 732-3089
(8:30 am to 4 pm)

The *Central Illinois Lincoln Logs* is a quarterly publication of the National Weather Service office in Lincoln, Illinois. It is available on our Internet page at

www.weather.gov/lincoln

Newsletter Editor:
Chris Geelhart,
Meteorologist
chris.geelhart@noaa.gov

October Rainfall Near Records



October came close to setting rainfall records in many locations. Rainfall for the month ranged from 7 to 12 inches. In the image above, areas shaded in purple saw in excess of 10 inches of rain, especially in southwest Illinois west into Missouri, where St. Louis saw its 4th wettest month of all time. All of the rain put the fall harvest way behind, with only 14% of the statewide corn crop harvested by October 26th (normal is 77%) and 33% of the soybeans (normal is 86%).

Some preliminary statistics for October for selected locations in central and south-east Illinois:

Location	Total	October Ranking	October Record
Decatur	10.09 inches	New Record	9.55 inches (1941)
Lincoln	9.86 inches	2nd wettest	11.07 inches (1941)
Normal	10.18 inches	New Record	10.08 inches (1941)
Peoria	7.95 inches	2nd wettest	10.53 inches (1941)
Springfield	11.32 inches	2nd wettest	13.39 inches (1941)
Urbana	8.79 inches	2nd wettest	9.01 inches (1941)